

REMARKS

Claims 3, 4, 10-12, 18, 19 and 22-34 are currently pending.

The Office Action rejected claims 3, 4 and 10 under 35 U.S.C. § 102 as anticipated by, and claims 24-26, 29 and 30 under 35 U.S.C. § 103 as obvious over, U.S. patent 4,822,852 ("Wittmann"). In making these rejections, the Office Action (at page 9) asserted that (1) the claims do not specifically mention anything about how Si is bound to other segments of the copolymer, so Wittmann's copolymer falls within the claims; and (2) Wittmann's copolymer reads on the claimed copolymer whether $p=0$ or $p=1$. In view of the following comments, Applicants respectfully request reconsideration and withdrawal of these rejections.

The Office Action has misinterpreted the structures of Wittmann's copolymer and of the claimed copolymer. Wittmann's copolymer, when $p=1$, has a C-B-A-B-C structure, where A is an organosiloxane group, B can be a "CH₂-O" alkoxy group and C is an amide group (thus, the structure is Amide-Alkoxy-Organosiloxane-Alkoxy-Amide). In contrast, the claimed copolymers possess a B-C-A structure (Alkoxy-Amide-Organosiloxane). Thus, the claimed copolymers require bonding of an amide group to both an alkoxy and an organosiloxane group, whereas in Wittmann's copolymer the amide group is bound only to an alkoxy group. Clearly, no amide/organosiloxane bond exists in Wittmann's copolymers. This structural difference explains why Wittmann's copolymer contains a direct O-Si bond (between the alkoxy and organosiloxane groups), but the claimed copolymers do not. The polymers are not the same.

Moreover, when $p=0$ in Wittmann's copolymer, no alkoxylation exists because no oxygen is present. These copolymers differ from the claimed copolymers which require alkoxylation.

What's more, no teaching, suggestion or motivation exists to fundamentally rearrange the structure of Wittmann's copolymers in such a way to yield the claimed polymers.

In view of the above, Applicants respectfully request reconsideration and withdrawal of the rejections under 35 U.S.C. §§ 102 and 103 based on Wittmann.

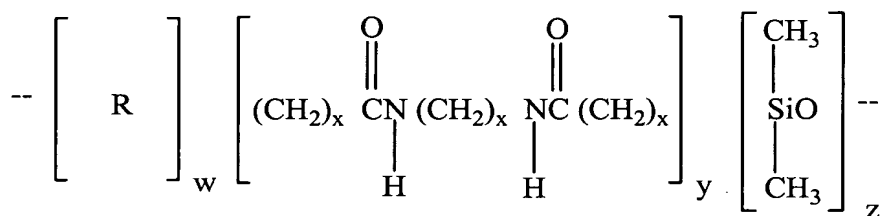
The Office Action also rejected the pending claims under 35 U.S.C. § 102 as anticipated by, and under the judicially created doctrine of obviousness-type double patenting as obvious over, several patents and patent applications disclosing the same type of polymer. Because all of these rejections involve the same issue (that is, whether the disclosed polymer containing only $[]_z$ and $[]_y$ blocks anticipates or renders obvious the claimed polymers having an "R" group in addition to $[]_z$ and $[]_y$ blocks), these rejections will be discussed together. In view of the following comments, Applicants respectfully request reconsideration and withdrawal of these rejections.

In making these rejections, the Office Action asserted that the "X" groups in the disclosed polymers can contain oxyalkylene groups. However, whether "X" groups contain an oxygen molecule or not misses the point.

To explain the differences between the disclosed polymers and the claimed polymers, Applicants submit herewith a Rule 132 declaration from inventor Shao Lu. Inventor Lu is either a co-inventor named on the cited patents/patent applications or is familiar with these patents/patent applications. (Rule 132 declaration, par. 2).

The primary difference between the polymers of the present invention and those disclosed in the cited references is that the polymers in the present application possess emulsifying activity: they contain sufficient alkoxylation to provide the polymers with emulsifying activity. (Rule 132 declaration, par. 3). In contrast, the polymers in the cited patents and patent applications do not possess emulsifying activity. (Rule 132 declaration, par. 3).

More specifically, the claimed polymers have the following structure:



(Rule 132 declaration, par. 4). The “R” group in these polymers is an oxyalkylene group. (Rule 132 declaration, par. 4). This oxyalkylene group provides the claimed polymers with emulsifying activity. (Rule 132 declaration, par. 4). Without the “R” group, the claimed polymers do not possess emulsifying activity. (Rule 132 declaration, par. 4). This oxyalkylene group “R” is not part of the $\left[\right]_z$ or $\left[\right]_y$ blocks of the claimed polymers. (Rule 132 declaration, par. 4).

In contrast, the polymers in the cited references do not contain an equivalent structure to the claimed “R” groups: these polymers consist only of $\left[\right]_z$ and $\left[\right]_y$ blocks. (Rule 132 declaration, par. 5). For example, in U.S. patent application publication no. 2004/0001799 (“Lu”), the polymer of formula (I) (paragraph [0037]) does not contain the required “R” or oxyalkylene group. (Rule 132 declaration, par. 5). In formula (I), “G” corresponds to the

“NHCO” groups in the claimed copolymers (see, Lu at par. [0049]), “X” corresponds to the “(CH₂)_x” groups terminal to the “NHCO” groups in the claimed copolymers (see, Lu at par. [0043]), and “Y” corresponds to the “(CH₂)_x” group between the “NHCO” groups in the claimed copolymers (see, Lu at pars. [0044-45]). (Rule 132 declaration, par. 5). Thus, “G,” “X” and “Y” all correspond to elements found within the []_y block in the claimed polymers. (Rule 132 declaration, par. 5). That the “X” group may contain oxygen in the disclosed polymers (as asserted by the Office Action) is of no import: the “X” group is within the []_y block, meaning that no structure in the disclosed polymers corresponds to the “R” group of the claimed polymers. (Rule 132 declaration, par. 5).

All of the cited patents and patent applications disclose polymers like Lu’s formula (I) polymers. (Rule 132 declaration, par. 6). No structure or variable in such polymers corresponds to the required “R” or oxyalkylene group in the claimed copolymers. (Rule 132 declaration, par. 6). This is further highlighted by the fact that Lu’s formula (I) polymers can be used as starting materials and combined with oxyalkylene groups to produce the claimed copolymers. (See, the present application at page 5, line 25 et seq.). (Rule 132 declaration, par. 6). Because Lu’s formula (I) polymers can be used as starting materials and combined with oxyalkylene groups to produce the claimed copolymers, it follows that Lu’s formula (I) polymers do not contain the claimed “R” or oxyalkylene groups: if Lu’s formula (I) polymers and the claimed polymers were truly the same, no need would exist to modify Lu’s formula (I) polymers by adding oxyalkylene groups to them to obtain the claimed polymers. (Rule 132 declaration, par. 6).

Finally, Inventor Lu has worked with polymers corresponding to Lu’s formula (I) polymers, an example of which is Nylon-611/dimethicone copolymer. (Rule 132 declaration,

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par. 6). It has been Lu's experience that such polymers do not have emulsifying activity.

(Rule 132 declaration, par. 6).

Clearly, the disclosed polymers are different from the claimed polymers: the disclosed polymers differ from the claimed polymers both structurally (they do not contain an "R" group like the claimed polymers) and functionally (they do not possess emulsifying activity). No teaching, suggestion or motivation exists to fundamentally change the structure and function of the disclosed polymers in such a way to yield the claimed polymers.

In view of the above, Applicants respectfully request reconsideration and withdrawal of the rejections under 35 U.S.C. § 102 as well as the double patenting rejections.

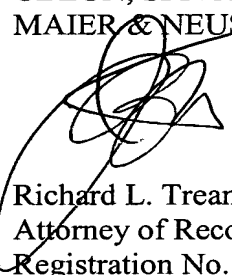
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Applicants believe that the present application is in condition for allowance. Prompt and favorable consideration is earnestly solicited.

Respectfully submitted,

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